RESPONSE OF NARROW ROW COTTON TO INCREMENTAL LEVELS OF SQUARE REMOVAL

Jay B. Phelps
MS State Extension Service
Indianola, MS
Jon T. Ruscoe
MS State Extension Service
Greenville, MS
William H. McCarty
MS State Extension Service
MS State, MS

Abstract

The value of retaining the first squares (floral buds) produced by the cotton *Gossypium hirsutum* L. plant is difficult to measure due to the plants ability to compensate for square losses. Responses of Sure-Grow 125 grown on 30 inch rows to early square removal were measured in a replicated small plot field study located in the mid-Mississippi Delta during the 1997 growing season. Square removal was initiated when the first squares were approximately 10 days of age. Treatments were: No squares removed, squares removed at week 1, squares removed for two consecutive weeks, squares removed for 3 consecutive weeks, and squares removed for 4 consecutive weeks. Squares were manually crushed with thumb forceps to cause abscission by the plant. Delays in flowering and boll opening increased with each level of square removal. Square removal for 4 weeks resulted in significantly taller plants than other treatments. The number of days after planting to reach 80% open bolls increased significantly with square removal. As square removal increased, lint production decreased in position 1 bolls and increased at positions 2 and positions >2. Lint yields in nodes 5 - 9 decreased as square removal increased and lint yields increased in nodes 10 - 14 and nodes 15-19 as square removal increased. Total lint yields were significantly lower when squares were removed for 3 and 4 weeks. The results of this study were similar to those from a study conducted in 1996 and indicate the need to determine the costs of delays in cotton production.

Reprinted from the *Proceedings of the Beltwide Cotton Conference*
Volume 2:1402-1402 (1998)
National Cotton Council, Memphis TN